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ABSTRACT

The 31st annual national survey conducted a census of the field of public school agricultural education to determine the situation regarding the supply and demand of teachers in the United States in 1995. Supply data came from teacher education programs, graduates, and placements. Demand data came from numbers of teachers, numbers of replacements hired, sources of replacements hired, types of schools, and kinds of programs. Findings indicated that the number of agricultural education teaching positions had been relatively stable for several years and was at about the same level as when the study began 30 years ago. The total number of newly qualified potential teachers fell back to the 30-year low of 625 established in 1990 and fell below the net number of replacements needed in 1995. Nearly a quarter of those newly qualified were not actively seeking teaching positions. Agricultural education programs nationwide experienced a growing shortfall in the number of fully qualified potential teachers prepared to accept available teaching positions. All three indicators of that shortfall reached their highest levels of the decade: teachers needed but not available on September 1, teachers with emergency certification, and departments that likely would not operate because a teacher was not available. The placement rate remained stable near the historic norm of just over 50 percent. Teachers were disproportionately white, non-Hispanic males. (Appendixes contain 21 references, news release, and fact sheet.) (YLB)

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A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF AGRICULTURAL EDUCATION IN 1995

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A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF AGRICULTURAL EDUCATION IN 1995

This is the 31st annual national survey of the supply and demand for teachers of Agricultural Education in the United States. The annual study is sanctioned by the Agricultural Education Division of the American Vocational Association and is conducted as a service to the profession. Dr. Ralph Woodin, initially of the Ohio State University and later of the University of Tennessee, Knoxville, conducted the annual studies from 1965 until 1973. Dr. David Craig of the University of Tennessee continued the study from 1974 through 1984. Beginning with 1985, I have been responsible for the annual study except for two years when Dr. J. Dale Oliver, also of Virginia Tech conducted it. This report provides trend data in a number of tables that are drawn from Dr. Woodin's, Dr. Craig's, Dr. Oliver's, or my own reports for the respective years. The layouts of many of the tables, data regarding previous years, much of the instrumentation, and parts of the verbiage are taken directly from those earlier studies. In 1995, the Agricultural Education Division voted to change the study from annual to triennial. The next study will be conducted in fall 1998.

Importance of the Study

The enterprise of public education in America is constantly evolving. It often seems totally resistant to management, or even accurate description, as Goodlad (1984) found. Of more immediate concern to the audience of this report, Agricultural Education is in the midst of what may well be radical changes in organization as well as in curriculum (National Research Council, 1988). Not only is the profession changing rapidly, but the patterns by which new teachers are educated and brought into the profession are undergoing dramatic revisions in most states (Duenk, 1989; Iverson & Trussell, 1988; Lynch, 1991). Thus, it is as important as ever that data be available to illuminate the numbers and sources of new teachers in Agricultural Education. Moreover, it is important that data be available to track the changes as they are implemented in Agricultural Education programs throughout America.

Background

The profession's concern for the supply and demand for teachers of Agricultural Education is not a new phenomenon. In a bulletin published by the Department of the Interior, C. D. Jarvis (1921) reported a total of 283 graduates from specialized teacher preparation programs in Agricultural Education, for 38 colleges of agriculture in the United States. He went on to quote C. H. Lane of the Federal Board for Vocational Education:

> In the north Atlantic region 352 students were enrolled in resident teacher-training classes during the school year 1919-20, as against 247 for the previous year. In the southern territory 849 students were enrolled in 1919-20 compared with 389 for the previous year. The east-central region had an enrollment of 343 for 1919-20 as against 282 for the previous year. In the west-central region, for 1919-20, 491 students were enrolled as against 164 for the previous year. In the Pacific-coast region, 275 students were enrolled in 1919-20 compared with 252 for the previous year.
>
> In summarizing the enrollment in resident teacher-training classes it is found that there were 2,310 students enrolled during 1919-20, compared with 1,334 for 1918-19. Experience has shown that many students who work in these

> classes do not become teachers. Furthermore, these enrollments represent the number of students of all years, and many of them will not be immediately available for service. In 1920, 444 students who had carried the work in agricultural education were graduated. (p. 9)

Estimating the supply and demand of teachers is a difficult and often frustrating task. Many people have tried over the years, and the results have been mixed at best. In a much broader study for the National Education Association, Graybeal (1981) reported a total of 1,200 newly qualified agriculture teachers available nationally at the end of school year 1980. Of those, he estimated 850 were available for teaching jobs. He further estimated a demand for only 525 teachers in fall 1980, thus indicating a nationwide surplus of 325 teachers for that year. For the same year, Craig (1983) reported a total of 1,584 newly qualified teacher education graduates; 824 actually entering teaching; 117 vacancies still remaining open as of September 1, 1981; and 454 teachers holding temporary or emergency certification. Clearly the two studies produced grossly different data and thus reached quite different conclusions. As recently as 1992, an Office of Educational Research and Improvement study (National Center for Educational Statistics, 1992) estimated the number of Agricultural Education teachers in the United states in 1987-88 at 10,598 yet included only teachers of grades 9-12. The annual supply and demand study reported the total number of teachers at 11,072 for the same year.

In light of such discrepancies, there has often been some debate over the reality of an agriculture teacher shortage. Parmley, Bowen, & Warmbrod (1979) examined data from previous national supply and demand studies by Woodin and Craig, attempting to make sense of a confusing situation. They concluded that the shortage reported by the ongoing studies resulted not from a shortfall in the number of graduates but from the low percentage of graduates choosing teaching as their initial profession. By extending their reasoning, the classic laws of supply and demand from the field of economics implied that the shortage was a function of salaries for beginning teachers rather than an inadequate numbers of graduates. More recently, Brown (1995) concluded:

> Approximately half of those graduating with a bachelor's degree in agricultural education were electing not to enter the teaching profession. The problem was not created by insufficient numbers completing bachelor's degrees in agricultural education. The problem was created by insufficient recruitment of qualified individuals into the profession of teaching. (p. 11)

Regardless of the theoretical basis for the teacher shortage, a very real problem faced the profession of Agricultural Education in those years: how to recruit enough people into teaching to fill the need of the profession for replacement teachers. The "teacher shortage" became a constant problem for Agricultural Education. Then, between 1976 and 1988, student enrollment in public school Agricultural Education declined from 697,000 to 522,000 (Scanlon, Yoder, Hoover, & Johnson, 1989). That student decline occurred during a concurrent but much less dramatic decline in the number of teachers in the profession, from 12,844 in 1978 to 11,204 in 1987, as reported in this study (Camp & Hively, 1988). During the same general timeframe, the number of newly qualified potential teachers of agriculture fell from 1,749 in 1977 to 643 in 1994 (Camp, 1995). Many of the positions becoming vacant during that timeframe were not being filled because of the decreasing number of teaching positions. Thus, even with fewer new potential teachers available, not only did the placement rate for new teacher education graduates decline, but the shortage of the 1960s and 1970s became a

very brief teacher surplus in the mid-1980s. Notably, the decline in the number of newly qualified teachers of agriculture continued throughout the 1980s, in spite of the general increase in teacher education enrollments during that period, as reported by Rodman (1987).

More recently, in a Michigan State University study, Scheetz and Slade (1993) found a "good demand" for Agricultural Education teachers, both in Michigan and nationally. Nicholas (1991) found that the balance between supply and demand for teachers of Agricultural Education varied widely by region. She noted a slight surplus of teachers in the south-central states and a slight shortage in the middle-Atlantic states and in the northwestern states.

Shapiro (1993) reported on the changes that could be expected in teacher preparation with the development of national standards for teacher certification by the National Board for Professional Teaching Standards. Her contention was that by setting higher standards for teachers, and by improving the conditions under which they will teach, the profession should be able to attract more and better qualified teachers. Olson (1993) contended that an increasing number of highly skilled, technically competent vocational teachers might have to be recruited from industry. In the case of Agricultural Education, that might be interpreted as agri-business or farming.

Today another potential major problem may loom on the horizon. Dykman (1993), drawing heavily from earlier work by Lynch (1991) asked the question, "who will teach the teachers" for vocational education. The Lynch study pointed out that the numbers of vocational teacher education programs has been steadily declining in recent years. At the same time, federal policies have begun to place greater emphasis on vocational education as a critical component of the public educational system. If the future holds more vocational education (Dykman, 1993), including a revitalized Agricultural Education (National Research Council, 1988), more teachers will be needed, not fewer. Yet teacher education programs seem to be on the decline in vocational education in general. Does the same contradiction hold true in Agricultural Education?

Problem and Purpose

The problem addressed by this ongoing study is twofold. Leaders of the profession need current, accurate estimates of the numbers of and demand for teachers of Agricultural Education to provide for meaningful policy decisions at all levels. Teacher organizations and teacher educators need current, accurate supply and demand information to use in recruitment activities and in counseling potential teachers of Agricultural Education. Yet, detailed data of that nature, specific to Agricultural Education, are not available outside this study.

The purpose of the study was to conduct a census of the field of public school Agricultural Education to determine the situation regarding the supply and demand of teachers in the United States, as of the end of school year 1994-95 and the beginning of school year 1995-96. Specific questions to be addressed were:

1. What are the current numbers and trends in terms of total numbers of teachers of Agricultural Education?
2. What kinds of public school programs exist for Agricultural Education?

3. What are the numbers and trends in newly qualified potential teachers of Agricultural Education?
4. What are the numbers and trends in teacher education programs?

Data Collection

This study was a population census. The data came from two sources.

Supply Data -- e.g., teacher education programs, graduates, and placements. The head teacher educator in each Agricultural Education department with a program for the specific preparation of teachers of agriculture at institutions of higher education in the United States was surveyed. In several institutions, the head teacher educator regularly passes responsibility for the study to another faculty member. In those cases, to avoid delays or even losses in handling the instrument, the survey was mailed directly to the person who could be expected to respond.

Demand Data -- e.g., numbers of teachers, numbers of replacements hired, sources of replacements hired, types of schools, and kinds of programs. The person in charge of Agricultural Education at each state department of education was surveyed. In several states, the state department official does not have access to the data needed or for some other reason does not respond to the survey. In those states the survey was mailed to the head teacher educator at the relevant teacher education institution.

The initial surveys along with a cover letter and a return envelope were mailed in mid September 1995. Repeated follow-ups by mail, e-mail, and telephone resulted in usable responses for almost all states and institutions. For those institutions and states that did not respond, previous-year data were used from the 1994 study.

Regional and National Summary Data

This study will provide two perspectives on the data collected. National and regional data will be presented in this section, followed by state and local data next. Throughout the report, the American Association for Agricultural Education (AAAE) regions were used to organize the data, by region. In that structure the regions and their states are:

- Central Region, IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI
- Eastern Region, CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, WV
- Southern Region, AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA
- Western Region, AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

Numbers of Teachers

Since the inception of this study, the total number of Agricultural Education teachers in this country has ranged between a low of 9,981 in 1992 and a high of 12,844 in 1978. See Table 1. The net change between 1965 and 1995 was -214, or about a 2 percent decline. Sadly, the number of newly qualified potential teachers has not remained as steady as the total number of teachers. Beginning with school year 1964-65, Agricultural Education programs produced 1,038 newly qualified potential teachers. That number reached a high of 1,791 in 1978 and a low of 588 in 1989. Since that low in 1989, the number of newly qualified, potential teachers has remained between fairly steady ranging from 625 to 686. The

proportion of newly qualified potential teachers entering teaching has historically ranged around half, ranging from a low of 40.8% in 1985 to a high of 64.6% in 1965. The placement rate in 1995 was 60.2%.

Table 1
Long-Term Trends in Selected Information on the Supply and Demand for Secondary Teachers of Agricultural Education Since 1964-65

Year	Total Number of Positions on Sept. 1	Teachers Needed but Unavailable Sept. 1	No. Newly Qualified to Teach During Previous SY	Newly Qualified Teachers Teaching Agriculture	Percent of Newly Qualified Teaching Agriculture
1964-65	10,378	120	1,038	671	64.6
1965-66	10,325	162	1,151	701	61.4
1966-67	10,221	232	1,233	742	60.2
1967-68	10,606	141	1,314	809	61.6
1968-69	10,560	121	1,566	891	56.9
1969-70	10,520	171	1,700	866	51.0
1970-71	10,438	120	1,743	864	49.6
1971-72	10,716	134	1,759	964	54.8
1972-73	11,141	276	1,713	966	56.3
1973-74	11,578	292	1,623	943	58.1
1974-75	12,107	211	1,660	999	60.2
1975-76	12,486	211	1,697	1,043	61.4
1976-77	12,694	221	1,749	1,063	61.5
1977-78	12,844	189	1,791	1,015	60.8
1978-79	12,772	144	1,656	909	56.7
1979-80	12,510	117	1,584	824	54.9
1980-81	12,450	98	1,468	767	52.0
1981-82	12,474	35	1,368	701	51.3
1982-83	12,099	42	1,277	582	45.6
1983-84	11,960	19	1,249	565	45.2
1984-85	11,687	8	1,207	493	40.8
1985-86	11,582	20	964	397	41.2
1986-87	11,204	14	952	396	41.6
1987-88	11,072	39	838	356	42.5
1988-89	10,840	25	588	311	52.9
1989-90	10,356	23	625	331	53.0
1990-91	10,177	9	638	325	50.9
1991-92	9,981	11	686	366	53.4
1992-93	10,119	20	636	345	54.2
1993-94	10,234	40	643	362	56.3
1994-95	10,164	51	625	351	60.2

Personnel Turbulence

Table 2 repeats some of the data in Table 1, but adds several dimensions for comparison. The net change in teaching positions is highlighted and shows no discernable direction during the 1990s, with changes varying from -484 to + 138. An interesting set of statistics involves the net number of replacement teachers needed in the Agricultural Education classrooms for fall 1995. The number of teachers leaving their schools at the end of school year ranged from 835 in 1991 to 1,040 in 1990, with 977 leaving in 1995. That figure can be misleading, however, since many of those are simply moving from one school to another. The actual number of teachers leaving the profession ranged from 801 in 1991 to 532 in 1994. The net teacher loss for Agricultural Education in the United States in 1995 was 697. From a total of 10,164 positions, that represents a gross turnover rate of over 9.6%, but a net turnover rate of slightly less than 6.9%

Even though our profession still cannot fully meet the need for new, fully-qualified teachers, the infamous "teacher shortage" of the 1960s and 70s clearly has become less severe over the past 30 years. The number of teachers needed but still unavailable at the start of the school year was 211 in 1975 but was down to 51 in 1995. Teachers working with various forms of temporary certification fell from 607 to 119 and the number of departments expected not to operate for the year was almost halved during that same 20 year span.

Graduates and Placements

As we have seen, the total number of new potential teachers of Agricultural Education qualified annually, declined steadily from 1980 to 1989, but has stabilized since that time in the range of the mid-600s. An examination of Table 3 shows that, of those persons newly qualified to teach during school year 1995, 351 were placed in teaching positions in Agricultural Education. Table 9, later in the paper, reveals that 304 of those were placed in Agricultural Education teaching positions in their home states and an additional 47 were placed in other states. When the number placed (n = 351), is compared to the number of newly qualified teachers (n = 625), the placement rate was 56.2 %, which is consistent with historical results from previous editions of this study. When the placement rate is based on the number of newly qualified teachers whom their professors rated as "probably wanted to teach," (n = 484), the placement rate was 72.5%. Assuming the estimate of those who "probably wanted to teach" is reasonably accurate, almost 27% of newly qualified teachers were unable to secure satisfactory teaching positions.

From the standpoint of agricultural teacher education, an important consideration in interpreting Table 3 is the change in perspective between 1975 and the present. As late as the 1985 supply and demand study, the survey sought simply the number of Agricultural Education BS/BA graduates. Until that time, being an Agricultural Education graduate was generally considered equivalent to being qualified to teach.

Table 2
Overview of Trends in Agricultural Education Teaching Positions and Personnel Turbulence in the United States for Selected Years

	1975	1980	1990	1991	1992	1993	1994	1995
Total number of positions on September 1	12,107	12,510	10,356	10,177	9,981	10,119	10,234	10,164 [1]
Net change in number of positions	+529	+10	-484	-179	-196	+138	+115	-70 [2]
Teachers leaving at end of school year	* [3]	*	1,040	835	844	901	930	977
Teachers Moving Between Schools	*	*	239	221	272	239	398	280
Net Teacher Losses	*	*	801	545	572	662	532	697
Teachers needed but unavailable on Sept. 1	211	117	23	10	20	20	40	51
Teachers with emergency or temporary certificates on Sept 1	607	454	110	88	71	71	84	119
Departments that probably will not operate because of lack of qualified teacher	78	55	9	14	11	20	22	41

Table 3
Trends in Numbers of Newly Qualified Agriculture Teachers and Their Placement

School Year:	1975	1990	1991	1992	1993	1994	1995
Agricultural Education - Graduates (1975) and Total Newly Qualified (1990 and later)	1,660	625	638	686	636	643	625
Number Teaching Agriculture	999	331	325	366	345	362	351
Percent Teaching Ag	60.2	53.0	50.9	53.4	54.2	56.3	56.2
Number Who "Probably Wanted To Teach"	* [4]	386	445	475	497	441	484
Percent Who "Probably Wanted to Teach"	*	85.8	73.0	77.1	69.4	82.1	72.5

Table 4 provides information concerning the sources and placements of those persons newly qualified to teach Agricultural Education. This table quantifies the impact on the teacher education profession of the change in certification patterns noted in the previous paragraph.

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1 This figure includes 10,113 teachers plus 51 vacancies for which teachers had not been hired as of September 1, 1995

2 Net change computed by subtracting total from current year from previous year total.

3 Data not collected for year indicated

4 Data not collected for year indicated

The number of Agricultural Education graduates (1,660) in 1975 was interpreted as the number of persons newly qualified to teach. So pervasive was that view, that data on other forms of teacher preparation were not even collected until the late 1980s. In 1995 almost 30 percent of the persons newly qualified to teach through Agricultural Teacher Education programs came through routes other than traditional undergraduate Agricultural Education majors, with the largest number (n=73) being graduate, non-degree certification. That compares to 72 newly qualified in 1990, with the masters degree and non-degree graduate certification programs combined. [5] The primary initial occupation for teacher education program, regardless of their specific program remains teaching agriculture, with employment in agribusiness second. Full time farming has declined markedly over the past 20 years, from 136 in 1975 to 19 in 1995.

Table 4
Trends in Numbers of Sources and Placement of Newly Qualified Agricultural Education Teachers Entering Various Occupations

	1975	1980	1985	1990	1995
Sources of Persons Newly Qualified to Teach					
BS/BA Graduates	1,660	1,584	1,207	548	436
Undergraduate Certification	* [6]	*	*	*	25
Masters Graduates	*	*	*	72	37
Graduate Certification	*	*	*		73
Other Programs	*	*	*	5	41
Unreported	*	*	*	*	13
Placement of Persons Newly Qualified to Teach					
Total	1,660	1,584	1,207	625	625
Teaching Ag Ed	999	824	493	331	376
Ag Business	125	219	222	157	74
Graduate Work	163	163	166	109	61
Other Work (Including Military)	182	164	136	64	31
Farming	136	120	115	46	19
Other Teaching	55	36	53	19	25
Extension Service	*	*	29	29	10
Unemployed	*	57	88	16	17

Types of Teaching Positions

Table 5 changes focus from teacher education program completers to teaching positions. As of fall term 1995, the Southern region of AAAE included just almost half (46 %) of all Agricultural Education programs in the country, with the Eastern region having just over 10 percent of the programs. High school programs represented the clear majority (78%) of programs with middle school/junior high school programs making up only about 4 percent of all programs. Full-time adult and/or Young Framer programs made up just less than 2 percent of the programs. In marked contrast to earlier years, production agriculture programs made up

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5 The 1990 survey did not collect separate data on masters and non-degree certifications.

6 Data not collected for year indicated

only about 7 percent of programs, with a "combination" program representing over 44 percent of all programs.

Table 5
Types of Secondary Teaching Positions in Agricultural Education on September 1, 1995 [7]

	Central	Eastern	Southern	Western	US Total
Total Teaching Positions	2,804	1,035	4,695	1,630	10,164
GRADE LEVEL					
High school only	1,975	903	4,059	960	7,897
Junior high or middle school only	5	16	316	25	362
Combination high and junior high or middle school	739	85	111	109	1,044
Adult and/or Young Farmer only	54	8	131	0	193
ADULT EDUCATION					
At least some adult and/or Young Farmer responsibilities	377	137	1,504	61	2,079
MULTIPLE SCHOOLS					
Teaching in more than one school	73	25	60	27	185
DEPARTMENT SIZE					
Single teacher dept.	1,926	424	2,480	669	5,499
Multi teacher dept.	694	606	1,926	425	3,651
PROGRAM FOCUS					
Ag Sales & Service	120	2	47	1	170
Agricultural Mechanics	96	102	242	36	476
Agricultural Products	7	1	16	0	24
Agriscience	587	101	943	90	1,721
Comb of Ag Courses	1,368	260	2,170	696	4,493
Disadvantaged & Handicapped	0	22	97	1	120
Explore/Intro Ag	7	24	130	14	175
Natural Resources	59	112	67	35	273
Ornamental Horticulture	165	206	389	93	853
Part Time Ag	1	3	59	9	72
Production Agriculture	145	166	316	110	736

State and Regional Data

Programs of Agricultural Education

Table 6 provides state-specific data on Agricultural Education programs, organized by AAAE region. The largest state program, Texas continued its domination of the field with 1,490

[7] Total number of teachers employed was 10,113 as of September 1, 1995. An additional 51 vacancies were still open for which no teachers had been hired, making a total of 10,164 positions.

teaching positions, or almost 15 percent of all positions in the United States. Again, Alaska was the smallest with only 7 positions. Table 6 also provides data sorted by program/option for each state. By far the largest program offering (n= 4,493) is a combination of Agricultural Education courses, rather than a dedicated program of agricultural production or any other single option. In terms of single-focus programs, agriscience follows (n=1,721) and ornamental horticulture (n=853).

Sources of New Teachers

Table 7 provides detailed data regarding the sources of new teachers in 1995, for each state. As noted earlier, a total of 977 teachers were hired in 1995, of which 280 were teachers who had simply moved from one school to another. As one might expect, the largest number of hires, was in the Southern region (n=384) with the smallest number (n=76) in the Western region. Alaska had no new hires and Texas had 150. The contribution to new hires of new master's degree graduates in Agricultural Education was surprisingly low (n=32). As in previous years, the number of new hires was substantially bolstered by previous Agricultural Education graduates (n=63) and former Agricultural Education teachers (n=115) returning to teaching.

Teacher Education Completers and Placements

An examination of Table 8 shows the numbers of newly qualified graduates, by institution and by region, as well as their placement. National data were reported in Table 3 and discussed previously. Central region institutions produced 142 newly qualified teachers, with the largest number (n=18) coming from Kansas State University. For the Eastern region, the Pennsylvania State University had the largest class (n=12). In the Southern region, Tarleton State University had the largest number (n=28). In the Western region, Utah State University produced the largest class (n=15).

Interestingly, Texas' 8 institutions produced a total of 121 newly qualified teachers. If we look back at Table 7, Texas had 150 new hires but 49 of those were teachers moving within the state, for a net of 101 actual replacements needed. In contrast, Tennessee's 5 teacher education institutions produced only 13 newly qualified teachers. But Table 7 shows that 13 teachers were hired in Tennessee, of whom 5 were "movers" for a total net of 8 replacements needed.

Of the 84 institutions reporting "active" teacher education programs, 5 showed no newly qualified teachers in school year 1995. An additional 8 institutions reported only 1 potential new teacher each. That leaves only 71 teacher education programs producing more than a single new potential teacher each in 1995.

Program Structure

Table 9 provides data by state and by region, of the program structure of Agricultural Education in the United States in 1995. Clearly the dominant pattern for program level remains that of the high school. In 13 states, high school was the only level for which Agricultural Education programs were reported: Iowa, Kansas, Minnesota, South Dakota, Connecticut, Delaware, Massachusetts, Maine, Rhode Island, Alaska, Arizona, Colorado, and Wyoming. Only 171 purely adult/Young Farmer programs remain with the 67 in Georgia and 30 in Ohio representing over half of the total. Yet part time adult/Young Farmer responsibilities are common in a number of states, such as Missouri, Ohio, West Virginia, Arkansas, Georgia,

Texas, Virginia, and Colorado. A total of 19 states reported no adult/Young Farmer requirement for teachers. Separate vocational high schools make up a majority of programs in Ohio, Connecticut, Massachusetts, New Jersey, and Vermont. In the remaining states, the norm is for programs to be offered in comprehensive or regular high schools.

Race/Ethnicity and Gender of Newly Qualified Potential Teachers

Table 10 shows the race/ethnicity and gender of newly qualified teachers on Agricultural Education by institution and by region. Data on race/ethnicity and gender of newly qualified teachers have been collected only since 1994. Males represented the majority (n=431) of newly qualified teachers in 1995, as did white, non-Hispanic (n=586). The University of Maryland-Eastern Shore produced the only newly qualified teacher of Asian or Pacific island descent in 1995. A total of 15 newly qualified Hispanic teachers were prepared nationally, with Texas A & M, Kingsville producing 10 of those. Only 5 native Americans were prepared as teachers of Agricultural Education in the United States in 1995, 1 each from North Dakota State, South Dakota State, Oklahoma State, Colorado State, and Oregon State. Universities with more than 1 graduate showing the least diversity were Nebraska (n=8 white males), Auburn (n=16 white males), Arkansas State (n=2 black males), Mississippi State (n=3 white males), Cameron (n=4 white males), Southern (n=2 black males), and Panhandle State (n=2 white males).

Table 6
Programs of Agricultural Education and Their Primary Program Focus by State and Region as of September 1, 1995 [1]

State	Total Positions	Agri-science	Orn Hort	Nat Res Mgt	Ag. Mech	Ag Pro-ducts	Disad & Hand	Exp/ Intro	Produc-tion Ag	Sales & Service	Comb Ag Courses	Part Time Ag
CENTRAL												
IA	223	0	10	10	10	0	0	0	96	96	0	0
IL	339	113	46	1	1	0	0	0	0	0	177	0
IN	234	0	6	0	1	0	0	0	0	0	224	0
KS	166	3	0	0	6	0	0	0	6	2	149	0
MI	147	136	0	0	10	0	0	0	0	0	0	0
MN	212	0	0	0	0	0	0	0	0	0	0	0
MO	342	3	12	5	7	1	0	0	0	1	313	0
ND	84	0	0	0	0	0	0	0	0	0	83	0
NE	130	0	0	0	0	0	0	0	0	0	130	0
OH	549	299	87	31	54	6	0	0	26	16	0	0
SD	87	0	0	0	0	0	0	0	0	0	87	0
WI	291	33	4	12	7	0	0	7	17	5	203	1
Sub Total	2,804	587	165	59	96	7	0	7	145	120	1,368	1
EASTERN												
CT	76	20	14	22	14	0	0	0	0	0	16	0
DE	32	0	9	0	4	0	1	0	0	0	13	0
MA	75	1	32	4	11	0	1	1	17	1	4	3
MD	69	0	20	0	0	0	3	4	0	0	39	0
ME	28	0	3	7	0	0	0	0	0	0	18	0
NH	32	2	10	6.5	2.5	0	2	1	2	0	6	0
NJ	71	5	45	4	2	1	1	0	3	0	13	0
NY	272	0	30	30	12	0	12	13	38	0	97	0
PA	244	40	33	23	45	0	0	0	101	0	0	0
RI	8	0	0	0	0	0	0	0	0	0	8	0
VT	31	5	4	11	6	0	0	0	5	0	0	0
WV	97	28	6	4	5	0	2	5	0	1	46	0

[1] The reader should note that program totals include 51 programs for which no teacher had been hired as of September 1, 1995, as well as 10,113 teachers who were actually employed as of that date. Also note that column totals may not sum to overall total because of under-reporting.

Sub Total	1,035	101	206	112	102	1	22	24	166	2	260	3
SOUTHERN												
AL	367	0	23	8	2	7	0	15	0	0	317	0
AR	263	0	1	2	8	0	0	8	0	0	250	0
FL	205											
GA	274	6	0	0	30	0	0	23	120	10	60	25
KY	262	0	54	1	0	0	0	0	0	3	184	0
LA	231	231	0	0	0	0	0	0	0	0	0	0
MS	185	30	18	9	30	0	0	42	35	19	0	0
NC	304	10	70	10	20	0	0	14	40	0	124	12
OK	451	0	20	0	0	0	9	0	0	0	430	0
SC	121	0	25	5	5	0	0	0	50	2	33	0
TN	245	65	60	4	60	0	0	0	50	1	0	0
TX	1,490	575	90	10	65	1	80	2	0	0	647	20
VA	297	26	28	18	22	8	8	26	21	12	125	2
Sub Total	4,695	943	389	67	242	16	97	130	316	47	2,170	59
WESTERN												
AK	7	0	0	7	0	0	0	3	0	0	0	0
AZ	94	53	7	2	4	0	0	0	0	0	10	8
CA	599	0	0	0	0	0	0	0	0	0	79	0
CO	94	7	10	3	0	0	0	0	0	1	73	0
HI	33	11	11	0	0	0	0	0	0	0	0	0
ID	90	5	0	4	5	0	0	1	8	0	66	1
MT	73	0	0	0	0	0	0	0	0	0	73	0
NM	86	4	8	0	3	0	0	3	34	0	34	0
NV	27	0	3	0	0	0	0	0	0	0	23	0
OR	124	0	7	1	1	0	1	1	0	0	112	0
UT	76	5	9	0	9	0	0	0	18	0	35	0
WA	277	5	38	18	14	0	0	6	0	0	191	0
WY	50	0	0	0	0	0	0	0	50	0	0	0
Sub Total	1,630	90	93	35	36	0	1	14	110	1	696	9
US Total	10,164	1,721	853	273	476	24	120	175	737	170	4,493	72

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Table 7
Sources of Agricultural Education Teachers Hired for Beginning of School Year 1995-96, by State and Region [2]

State	Total Hired	Moved to New School	New Ag Ed BS/BA	New Ag Ed MS/MA	Other New Ag Grads	Other New Educ Grads	Other New Grads	Previous Ag Ed Grads	Former Ag Teacher	Agri-Business	Farming	Non-Degree	Unknown
CENTRAL													
IA	33.5	13.5	19	0	0	0	0	0	1	0	0	0	0
IL	73	23	12	2	2	1	1	2	11	15	1	3	0
IN	21	6	14	0	0	0	0	0	1	0	0	0	0
KS	10	3	6	0	0	0	0	0	1	0	0	0	0
MI	15	6	4	0	0	0	0	0	4	1	0	0	0
MN	19	2	9	0	0	0	0	0	4	3	1	0	0
MO	45	16	22	0	0	0	0	0	6	0	1	0	0
ND	11	0	0	0	0	4	0	7	0	0	0	0	0
NE	5	0	4	0	0	0	0	0	0	1	0	0	0
OH	0	0	0		0	0	0	0	0	0	0	0	0
SD	8	4	2	0	0	0	0	1	1	0	0	0	0
WI	36	10	10	0	2	1	0	2	10	0	0	0	1
Sub Total	277	83.5	102	2	4	6	1	12	39	20	3	3	1
EASTERN													
CT	13	0	0	2	0	1	0	0	2	1	0	0	7
DE	3	0	1	0	0	0	0	0	1	1	0	0	0
MA	7	0	1	0	1	0	0	1	0	4	0	0	0
MD	5	1	0	0	3	0	0	0	0	0	0	1	0
ME	3	0	0	0	0	0	0	0	1	1	0	0	1
NH	3	0	0	0	0	0	2	0	1	0	0	0	0
NJ	4	2	0	0	0	0	0	0	0	0	0	0	2
NY	8	2	4	0	0	1	0	1	0	0	0	0	0
PA	15	11	3	0	0	0	0	0	1	0	0	0	0
RI	0	0	0	0	0	0	0	0	0	0	0	0	0
VT	0	0	1	0	0	0	0	0	1	2	0	0	0
WA	11	3	6	0	0	0	0	2	0	0	0	0	0

[2] The reader should note that column totals may not sum to overall total because of under-reporting.

Sub Total	76	19	16	2	4	2	2	4	7	9	0	1	10
SOUTH ERN													
AL	18	8	9	0	0	0	0	0	1	0	0	0	0
AR	0	0	0	0	0	0	0	0	0	0	0	0	0
FL	30	7	4	1	4	0	0	2	3	3	2	4	0
GA	12	5	4	2	1	0	0	0	0	0	0	0	0
KY	22	4	10	1	0	0	0	4	3	0	0	0	0
LA	24	5	9	0	0	0	0	7	2	0	0	0	1
MS	6	2	3	0	0	0	0	0	0	1	0	0	0
NC	43	12	14	3	0	2	0	3	3	1	0	0	5
OK	24	5	17	0	0	0	0	0	2	0	0	0	0
SC	18	1	7	3	7	0	0	0	0	0	0	0	0
TN	13	5	8	0	0	0	0	0	0	0	0	0	0
TX	150	49	36	9	1	0	0	10	30	0	2	0	13
VA	24	3	3	0	4	1	0	5	4	4	0	0	0
Sub Total	384	106	124	19	17	3	0	31	48	9	4	4	19
WEST ERN													
AK	0	0	0	0	0	0	0	0	0	0	0	0	0
AZ	14	0	9	0	0	0	0	3	2	0	0	0	0
CA	71	28	0	0	22	0	0	0	7	3	0	0	11
CO	14	7	6	0	0	0	0	0	1	0	0	0	0
HI	2	1	1	0	0	0	0	0	0	0	0	0	0
ID	14	6	3	0	0	0	0	1	1	0	0	0	3
MT	9	2	2	0	0	0	0	1	2	0	0	1	1
NM	20	7	6	1	0	0	0	1	4	1	0	0	0
NV	2	0	0	0	0	0	0	0	0	0	0	0	2
OR	21	3	0	6	6	2	0	0	3	1	0	0	0
UT	17	2	5	1	1	1	0	3	0	0	0	1	3
WA	52	15	6	1	9	7	0	7	1	5	1	0	0
WY	4	0	4	0	0	0	0	0	0	0	0	0	0
Sub Total	240	71	42	9	38	10	0	16	21	10	1	2	20
US Total	977	280	284	32	63	21	3	63	115	48	8	10	50

Table 8

Newly Qualified Potential teachers of Ag Education and Their Job Placement on Sept 1, 1995, by Institution and Region

Region State	Institution	Newly Qual-ified	Teach Ag, In State	Teach Ag, Out of State	Teach Other Sub-ject	Ag Bus	Ext Svc	Farm Full Time	Grad Sch	Other Work	Unem-ployed
					CEN TRAL						
IA	Iowa State U.	11	0	0	0	0	0	0	0	0	0
IL	Illinois State	3	3	0	0	0	0	0	0	0	0
IL	Southern Illinois U.	5	3	0	0	2	0	0	0	0	0
IL	U. of Illinois	4	3	0	0	0	0	0	0	1	0
IL	Western Illinois U.	4	1	1	0	1	0	0	1	0	0
IN	Purdue U.	10	7	1	0	2	0	0	0	0	0
KS	Kansas State U.	18	4	1	1	0	3	3	3	3	0
MI	Michigan State U.	5	3	0	0	2	0	0	0	0	0
MO	NW Missouri State U.	6	1	2	0	1	0	1	1	0	0
MO	SW Missouri State U.	2	2	0	0	0	0	0	0	0	0
MO	U. of Missouri-Columbia	11	10	0	0	1	0	0	0	0	0
MN	U. of Minnesota	8	4	1	0	1	0	0	0	0	2
ND	North Dakota State U.	11	9	1	0	0	0	1	0	0	0
NE	U. of Nebraska	8	6	0	0	2	0	0	0	0	0
OH	Ohio State U.	7	6	0	0	0	0	0	0	0	0
SD	South Dakota State U.	10	3	2	0	4	0	0	2	0	0
WI	U. of Wisconsin-Madison	1	1	0	0	0	0	0	0	0	0
WI	U. of Wisconsin-Platteville	3	2	1	0	0	0	0	0	0	0
WI	U. of Wisconsin-River Falls	15	11	3	0	0	0	1	0	0	0
	Subtotals	142	79	13	1	16	3	6	7	4	2
					EAST ERN						
CT	U. of Connecticut	1	1	0	0	0	0	0	0	0	0
DE	Delaware State U.	0	0	0	0	0	0	0	0	0	0
DE	U. of Delaware	1	1	0	0	0	0	0	0	0	0
MA	U. of Massachusetts	6	2	0	1	3	0	0	0	0	0
MD	U. of Maryland-E Shore	4	0	0	0	0	0	0	0	4	0
NH	U. of New Hampshire	3	0	1	0	0	0	0	0	0	2

NJ	Rutgers U.	1	1	0	0	0	0	0	0	0	0
NY	Cornell U.	7	1	1	1	0	0	0	0	3	0
PA	Pennsylvania State U.	12	3	5	0	1	0	0	1	0	2
RI	U. of Rhode Island	1	0	0	0	1	0	0	0	0	0
WV	West Virginia U.	7	4	2	0	0	0	0	0	0	1
	Subtotals	43	13	9	2	5	0	0	1	7	5
				SOUTHERN							
AL	Auburn U.	16	6	0	0	10	0	0	0	0	0
AL	Tuskegee Institute	0	0	0	0	0	0	0	0	0	0
AR	Arkansas State U.	2	1	1	0	0	0	0	0	0	0
AR	Southern Arkansas U.	6	5	0	0	1	0	0	0	0	0
AR	U. of AR-Fayetteville	10	3	0	1	1	0	1	3	1	0
AR	U. of AR-Pine Bluff	0	0	0	0	0	0	0	0	0	0
FL	U. of Florida	24	20	0	0	0	0	0	0	0	0
GA	Fort Valley State College	5	5	0	0	0	0	0	0	0	0
GA	U. of Georgia	12	5	1	0	2	0	1	2	1	0
KY	Murray State U.	7	1	2	1	0	0	0	2	1	0
KY	U. of Kentucky	8	4	1	0	1	0	0	1	1	0
KY	Western Kentucky U.	5	1	0	2	1	0	0	1	0	0
LA	Louisiana State U.	5	3	0	0	1	0	0	1	0	0
LA	Southwest Louisiana U.	1	1	0	0	0	0	0	0	0	0
LA	Louisiana Tech U.	6	4	0	0	0	0	0	2	0	0
LA	Southern U.	2	0	0	1	0	1	0	0	0	0
MS	Alcorn State U.	6	3	0	0	0	1	0	0	2	0
MS	Mississippi State U.	3	3	0	0	0	0	0	0	0	0
NC	North Carolina A & T	4	3	0	0	0	0	0	1	0	0
NC	North Carolina State U.	14	7	0	1	2	0	0	3	0	0
OK	Cameron U.	4	3	0	0	0	0	1	0	0	0
OK	Oklahoma State U.	24	7	2	1	5	0	1	6	1	1
OK	Panhandle State U.	2	0	0	0	2	0	0	0	0	0
SC	Clemson U.	10	1	0	1	0	0	1	1	2	4
TN	Middle Tennessee State	5	1	0	1	2	0	1	0	0	0
TN	Tennessee State U.	0	0	0	0	0	0	0	0	0	0
TN	Tennessee Tech U.	2	1	0	0	0	1	0	0	0	0

TN	U. of Tennessee-Knoxville	7	3	1	0	1	0	0	1	0	0
TN	U. of Tennessee-Martin	1	1	0	0	0	0	0	0	0	0
TX	East Texas State U.	9	6	0	1	1	0	0	1	0	0
TX	Sam Houston State U.	9	5	0	1	0	0	0	0	3	0
TX	Southwest Texas State	4	1	0	0	1	0	0	0	1	0
TX	Stephen F. Austin St. U.	7	0	0	0	0	0	0	0	0	0
TX	Tarleton State U.	28	10	1	0	9	0	0	8	0	0
TX	Texas A & M	23	10	0	5	1	1	1	3	2	0
TX	Texas A & M-Kingsville	16	7	0	1	0	0	2	5	0	1
TX	Texas Tech	25	10	1	2	4	2	2	4	0	0
VA	Virginia State U.	1	0	0	0	0	0	0	0	1	0
VA	Virginia Tech	10	4	0	0	0	1	1	2	0	1
	Subtotals	323	145	10	19	45	7	12	47	16	7
				WEST ERN							
AZ	U. of Arizona	7	6	1	0	0	0	0	0	0	0
CA	Cal. State Univ.-Chico	9	7	0	0	0	0	0	0	2	0
CA	U. of California-Davis	6	3	0	0	1	0	0	2	0	0
CA	Cal. State Univ.- Fresno	6	5	0	0	1	0	0	0	0	0
CA	Cal. Poly State - Pomona	6	3	0	2	0	0	0	0	0	1
CA	Cal. Poly State - San Luis Obispo	14	11	0	0	0	0	0	1	0	2
CO	Colorado State U.	13	5	2	0	0	0	0	2	1	0
ID	U. of Idaho	11	3	5	1	0	0	0	1	0	0
MT	Montana State U.	5	2	1	0	2	0	0	0	0	0
NM	New Mexico State U.	6	3	0	0	1	0	1	0	0	0
NV	U. of Nevada-Reno	0	0	0	0	0	0	0	0	0	0
OR	Oregon State U.	6	4	2	0	0	0	0	0	0	0
UT	Utah State U.	15	8	4	0	3	0	0	0	0	0
WA	Washington State U.	6	6	0	0	0	0	0	0	0	0
WY	U. of Wyoming	7	1	0	0	0	0	0	0	1	0
	Subtotals	117	67	15	3	8	0	1	6	4	3
US	TOTALS	625	304	47	25	74	10	19	61	31	17

Table 9
Types of Secondary Teaching Positions in Agricultural Education on September 1, 1995, by State and Region [3]

Region	Grade Level of Students								Size of Department		
State	High School	Jr High or Middle School	High & JHS or MS Combined	100 % Adult/ Young Farmer	School Level Not Known	Separate Voca-tional School	Some Adult/ Young Farmer	Teach in Multiple Schools	Single Teach-er	Multi-Teach-er	Dept Size Not Known
CEN TRAL											
IA	222	0	0	0	0	0	38	18	210	12	0
IL	313	1	24	0	0	4	7	5	276	62	0
IN	0	0	220	0	0	7	35	2	176	27	0
KS	168	0	0	0	0	8	0	0	148	20	0
MI	146	0	0	0	0	0	0	0	6	4	0
MN	0	0	210	0	0	3	15	16	184	26	0
MO	314	0	0	28	0	97	90	7	205	137	0
ND	70	0	13	0	0	76	0	7	77	6	0
NE	0	0	130	0	0	0	32	3	122	8	0
OH	513	0	0	26	0	232	160	4	224	315	0
SD	87	0	0	0	0	2	0	3	79	8	0
WI	142	4	142	0	0	0	0	8	219	69	0
Sub tot	1975	5	739	54	0	429	377	73	1926	694	0
EAST ERN											
CT	72	0	4	0	0	74	15	0	2	74	0
DE	31	0	0	0	0	2	0	0	11	20	0
MA	75	0	0	0	0	65	0	0	8	67	0
MD	62	4	1	0	0	15	0	0	41	25	1
ME	* [4]	*	*	*	*	12	5	0	8	21	0
NH	30	2	0	0	0	19	5	0	12	20	0
NJ	58	0	13	0	0	36	4	5	32	39	0
NY	218	6	58	0	0	61	12	5	126	146	0
PA	234	3	0	5	0	41	45	2	124	118	0
RI	8	0	0	0	0	1	0	0	4	4	0
VT	27	0	2	2	0	21	2	0	7	24	0

[3] The reader should note that column totals may not sum to overall total because of under-reporting.
[4] Programmatic details not reported.

WA	88	1	7	1	0	23	49	13	49	48	0
Sub tot	903	16	85	8	0	370	137	25	424	606	1
SOUTH ERN											
AL	347	25	0	0	0	39	12	3	293	79	0
AR	*	*	*	*	*	3	131	3	199	64	0
FL	200	150	0	25	0	0	0	0	0	0	0
GA	250	22	2	67	0	4	250	4	127	147	0
KY	238	1	3	21	0	3	130	11	60	182	0
LA	217	12	2	0	0	4	0	0	156	75	0
MS	171	11	0	0	0	55	19	2	108	77	0
NC	290	10	0	0	0	3	70	1	167	62	0
OK	431	0	0	16	0	16	55	3	393	66	0
SC	95	3	5	0	0	17	85	10	110	10	0
TN	236	4	0	0	0	17	4	1	127	113	0
TX	1383	13	94	0	0	100	600	8	610	880	0
VA	201	65	5	2	0	23	148	14	130	171	0
Sub tot	4059	316	111	131	0	284	1504	60	2480	1926	0
WEST ERN											
AK	7	0	0	0	0	0	0	0	7	0	0
AZ	77	7	0	0	0	7	2	6	49	35	0
CA	79	0	0	0	0	0	0	0	13	66	0
CO	94	0	0	0	0	13	31	0	69	25	0
HI	33	0	0	0	0	0	0	0	26	7	0
ID	55	4	31	0	0	0	0	8	69	21	0
MT	33	0	40	0	0	5	15	0	55	18	0
NM	46	4	36	0	0	0	0	4	62	24	0
NV	25	0	2	0	0	3	0	1	21	6	0
OR	121	2	0	0	0	10	0	1	89	34	0
UT	74	2	0	0	0	1	5	4	52	24	0
WA	266	6	0	0	0	0	0	1	113	159	0
WY	50	0	0	0	0	1	8	2	44	6	0
Sub tot	960	25	109	0	0	40	61	27	669	425	0
US Total	7897	362	1044	193	0	1123	2079	185	5499	3651	1

Table 10
Gender and Ethnicity of Newly Qualified Potential Teachers of Agricultural Education on Sept 1, 1995, by Region and Institution

State	Institution	Newly Qualified	Males	Females	African American	White, Non-Hispanic	Native American	Hispanic	Asian, Pacific Islands
				CEN TRAL					
IA	Iowa State Univ.	11	7	4	0	11	0	0	0
IL	Illinois State	3	3	0	0	3	0	0	0
IL	Southern Illinois Univ.	5	4	1	0	5	0	0	0
IL	Univ. of Illinois	4	2	2	0	4	0	0	0
IL	Western Illinois Univ.	4	2	2	0	4	0	0	0
IN	Purdue Univ.	10	7	3	0	10	0	0	0
KS	Kansas State Univ.	18	14	4	0	18	0	0	0
MI	Michigan State Univ.	5	3	2	0	5	0	0	0
MO	Northwest Missouri State Univ.	6	2	4	0	6	0	0	0
MO	Southwest Missouri State Univ.	2	1	1	0	2	0	0	0
MO	Univ. of Missouri-Columbia	11	8	3	0	11	0	0	0
MN	Univ. of Minnesota	8	N/A	N/A	0	8	0	0	0
ND	North Dakota State Univ.	11	8	3	0	10	1	0	0
NE	Univ. of Nebraska	8	8	0	0	8	0	0	0
OH	Ohio State Univ.	7	3	4	0	7	0	0	0
SD	South Dakota State Univ.	10	8	2	0	9	1	0	0
WI	Univ. of Wisconsin-Madison	1	1	0	0	1	0	0	0
WI	Univ. of Wisconsin-Platteville	3	2	1	0	3	0	0	0
WI	Univ. of Wisconsin-River Falls	15	9	6	0	15	0	0	0
	Region Subtotals	142	85	39	0	140	2	0	0
				EAST ERN					
CT	Univ. of Connecticut	1	0	1	0	1	0	0	0
DE	Delaware State Univ.	0	0	0	0	0	0	0	0
DE	Univ. of Delaware	1	0	1	0	1	0	0	0
MA	Univ. of Massachusetts	6	4	2	0	6	0	0	0
MD	Univ. of Maryland-E Shore	4	N/A	N/A	0	1	0	1	1
NH	Univ. of New Hampshire	3	3	0	0	3	0	0	0
NJ	Rutgers Univ.	1	0	1	0	1	0	0	0

NY	Cornell Univ.	7	4	3	0	7	0	0	0
PA	Pennsylvania State Univ.	12	5	7	0	12	0	0	0
RI	Univ. of Rhode Island	1	1	0	0	1	0	0	0
WV	West Virginia Univ.	7	5	2	0	7	0	0	0
	Region Subtotals	43	18	14	0	40	0	1	1
				SOUTH ERN					
AL	Auburn Univ.	16	16	0	0	16	0	0	0
AL	Tuskegee Institute	0	0	0	0	0	0	0	0
AR	Arkansas State Univ.	2	2	0	0	2	0	0	0
AR	Southern Arkansas Univ.	6	N/A	N/A	0	6	0	0	0
AR	Univ. of Arkansas-Fayetteville	10	8	2	0	10	0	0	0
AR	Univ. of Arkansas-Pine Bluff	0	0	0	0	0	0	0	0
FL	Univ. of Florida	24	13	11	2	21	0	1	0
GA	Fort Valley State College	5	5	0	3	2	0	0	0
GA	Univ. of Georgia	12	10	2	0	12	0	0	0
KY	Murray State Univ.	7	6	1	0	7	0	0	0
KY	Univ. of Kentucky	8	7	1	0	8	0	0	0
KY	Western Kentucky Univ.	5	4	1	0	5	0	0	0
LA	Louisiana State Univ.	5	3	2	0	5	0	0	0
LA	Southwest Louisiana Univ.	1	1	0	0	1	0	0	0
LA	Louisiana Tech Univ.	6	N/A	N/A	0	6	0	0	0
LA	Southern Univ.	2	2	0	2	0	0	0	0
MS	Alcorn State Univ.	6	4	2	6	0	0	0	0
MS	Mississippi State Univ.	3	3	0	0	3	0	0	0
NC	North Carolina A & T	4	3	1	3	1	0	0	0
NC	North Carolina State Univ.	14	6	8	0	14	0	0	0
OK	Cameron Univ.	4	4	0	0	4	0	0	0
OK	Oklahoma State Univ.	24	22	2	0	23	1	0	0
OK	Panhandle State Univ.	2	2	0	0	2	0	0	0
SC	Clemson Univ.	10	5	5	0	10	0	0	0
TN	Middle Tennessee State	5	3	2	0	5	0	0	0
TN	Tennessee State Univ.	0	0	0	0	0	0	0	0
TN	Tennessee Tech Univ.	2	1	1	0	2	0	0	0
TN	Univ. of Tennessee-Knoxville	7	6	1	0	7	0	0	0
TN	Univ. of Tennessee-Martin	1	1	0	0	1	0	0	0

TX	East Texas State Univ.	9	N/A	N/A	0	9	0	0	0
TX	Sam Houston State Univ.	9	5	4	0	9	0	0	0
TX	Southwest Texas State	4	N/A	N/A	0	4	0	0	0
TX	Stephen F. Austin State Univ.	7	N/A	N/A	0	7	0	0	0
TX	Tarleton State Univ.	28	22	6	0	28	0	0	0
TX	Texas A & M	23	13	10	0	23	0	0	0
TX	Texas A & M-Kingsville	16	12	4	0	6	0	10	0
TX	Texas Tech Univ.	25	N/A	N/A	0	24	0	1	0
VA	Virginia State Univ.	1	1	0	0	1	0	0	0
VA	Virginia Tech	10	2	8	1	9	0	0	0
	Region Subtotals	323	192	74	17	293	1	12	0
				WEST ERN					
AZ	Univ. of Arizona	7	5	2	0	7	0	0	0
CA	Cal. State University-Chico	9	4	5	0	9	0	0	0
CA	Univ. of California-Davis	6	4	2	0	6	0	0	0
CA	Cal. State University-Fresno	6	3	3	0	5	0	1	0
CA	Cal. State Poly Univ.-Pomona	6	1	5	0	6	0	0	0
CA	Cal. Poly-San Luis Obispo	14	5	9	0	13	0	1	0
CO	Colorado State Univ.	13	10	3	0	12	1	0	0
ID	Univ. of Idaho	11	7	4	0	11	0	0	0
MT	Montana State Univ.	5	4	1	0	5	0	0	0
NM	New Mexico State Univ.	6	4	2	0	6	0	0	0
NV	Univ. of Nevada-Reno	0	0	0	0	0	0	0	0
OR	Oregon State Univ.	6	4	2	0	5	1	0	0
UT	Utah State Univ.	15	11	4	0	15	0	0	0
WA	Washington State Univ.	6	3	3	0	6	0	0	0
WY	Univ. of Wyoming	7	6	1	0	7	0	0	0
	Subtotals	117	71	46	0	113	2	2	0
US Total		625	431	165	17	586	5	15	1

Race/Ethnicity and Gender of Agricultural Education Teachers

Table 11 provides data on the race/ethnicity and gender of teachers by state and region. Data on the race/ethnicity and gender of teachers have been collected only since 1992. Several states under-reported the gender of their teachers. Of the 9,197 teachers for whom gender was reported, 8,377 (91.1%) were male. Likewise, several states under-reported race/ethnicity. Of the 9,330 teachers for whom race/ethnicity was reported, 8,863 were white non-Hispanic (95%), 311 were African American (3.3%), and the remainder were native Americans (n=36) and Asian/Pacific islanders (n=5).

Table 11
Agricultural Education Teacher Gender and Race/Ethnicity, by State and Region, September 1, 1995

State	Total [1,2]	Male	Female	African American	White, non-Hispanic	Native American	Hispanic	Asian/ Pacific Islands
CENTRAL								
IA	220	203	19	0	221	0	0	0
IL	331	295	43	11	325	0	1	1
IN	227	216	15	2	229	0	0	0
KS	166	166	0	0	165	1	0	0
MI	147	136	2	3	141	0	0	0
MN	210	92	18	0	206	0	0	0
MO	330	323	19	1	340	0	0	0
ND	78	82	1	0	83	0	0	0
NE	129	126	4	0	130	0	0	0
OH	524	480	59	0	539	0	0	0
SD	93	81	6	0	86	1	0	0
WI	289	240	48	0	288	0	0	0
Sub Total	2,744	2,440	234	17	2,753	2	1	1
EASTERN								
CT	0	56	20	0	76	0	0	0
DE	31	23	8	1	30	0	0	0
MA	75	49	26	0	75	0	0	0
MD	67	45	12	5	61	0	0	0
ME	28	23	4	0	25	0	0	0
NH	32	23	9	0	32	0	0	0
NJ	71	47	24	0	71	0	0	0
NY	272	237	35	11	255	0	4	2
PA	240	207	35	3	239	0	0	0
RI	10	8	0	0	8	0	0	0
VT	31	24	7	0	31	0	0	0

1 The reader should note that the number of programs reported earlier includes 10,113 teachers and an additional 51 programs for which no teacher had been hired as of September 1, 1995, as well as 10,194 teachers who were actually employed as of that date

2 Column totals do not sum to overall total because of under-reporting

WA	98	90	7	0	97	0	0	0
Sub Total	955	832	187	20	1,000	0	4	2
				SOUTH ERN				
AL	372	369	3	53	319	0	0	0
AR	261	253	10	14	248	1	0	0
FL	375							
GA	274	249	25	14	259	0	0	1
KY	263	220	22	0	242	0	0	0
LA	230	220	11	20	210	0	0	0
MS	185	177	8	48	137	0	0	0
NC	309	256	44	38	261	1	0	0
OK	451	439	8	0	430	27	0	0
SC	120	115	5	25	95	0	0	0
TN	237	231	9	11	229	0	0	0
TX	1,457	1,420	70	20	1,390	0	80	0
VA	301	245	51	30	265	0	1	0
Sub Total	4,835	4,194	266	273	4,085	29	81	1
				WEST ERN,				
AK	7	6	1	0	7	0	0	0
AZ	89	66	18	0	76	2	6	0
CA	596	51	28	0	66	0	13	0
CO	94	81	13	0	94	0	0	0
HI	33	30	3	0	0	0	0	0
ID	88	85	5	0	90	0	0	0
MT	72	67	6	0	72	0	1	0
NM	82	78	8	0	75	2	9	0
NV	28	24	3	0	26	1	0	0
OR	153	108	15	1	121	0	0	1
UT	68	72	4	0	76	0	0	0
WA	272	243	29	0	272	0	0	0
WY	50	0	0	0	50	0	0	0
Sub Total	1,632	911	133	1	1,025	5	29	1
US Total	10,164	8,377	820	311	8,863	36	115	5

Faculty Numbers and Affiliation

A total of 84 universities reported active agricultural teacher education programs in 1995, see Table 12. As previously shown in Table 10, 5 of those institutions reported no graduates for 1995 and 8 additional institutions reported only 1 newly qualified teacher each. That means only 71 institutions reported having qualified more than 1 new teacher for the 1995 school year. A total of 215.7 faculty FTE were indicated for university agricultural education programs.

Table 12
Agricultural Education Faculty and Colleges of Affiliation, Fall 1995 [3]

Region	Number of Programs	Ranked Faculty	Instruc-tors	Graduate Teaching Assistant	Other Faculty	College of Agri-culture	College of Educa-tion	Other College
Central	19	54.05	8.5	6.5	1	8	8	4
Eastern	11	42.25	2	2.5	0	9	4	1
Southern	39	89.05	4	31.5	16.5	26	8	4
Western	15	30.35	3.6	2.5		11	3	2
US Totals	84	215.70	18.1	43	17.5	54	23	11

Conclusions

The apparent stability in the total number of positions for teachers of agriculture in the United States over the past three decades masks substantial fluctuations during the intervening years. While 10,378 positions in 1965 were very close to the 10,164 positions reported in 1995, the numbers ranged from a low of 9,998 in 1992 to a high of 12,844 in 1978. Nevertheless, as of 1995, the number of Agricultural Education teaching positions in the United States has been relatively stable for several years, and is at about the same level as when the study began 30 years ago.

The total number of newly qualified potential teachers of Agricultural Education in 1995 fell back to the 30-year low of 625 established in 1990. In fact, the total number newly qualified fell below the net number of replacements needed in 1995. Even if we assume that every newly qualified potential teachers actually wants to teach, that is a troubling statistic. Yet according to teacher education faculty, nearly a quarter of those newly qualified are not actively seeking teaching positions. Thus, the number of potential new teachers actively seeking teaching positions was substantially below the number needed to fill actual vacancies.

Again in 1995, Agricultural Education programs nationwide experienced a growing shortfall in the number of fully qualified teachers prepared to accept available teaching positions. All three indicators of that shortfall reached their highest levels of the decade in 1995:

- Teachers needed but not available on September 1 (n=51),
- Teachers with emergency certification (n=119), and
- Departments that likely would not operate because a teacher was not available (n=41).

That combination of indicators leads to the conclusion that numbers of qualified teachers is becoming a more serious problem as we enter the last half of the 1990s.

Two important sources of replacement teachers are previous Agricultural Education graduates and former Agricultural Education teachers. We might speculate that some of those earlier graduates had initially been unable to secure teaching positions in suitable geographic locations initially, and that more desirable positions subsequently became available. Other earlier graduates may well have reconsidered whether they wanted to teach after some experience in non-teaching occupations. Many previous teachers who had left the classroom

[3] Of the 84 programs reporting college affiliation, 4 reported dual appointments. Thus, the number of college affiliations sums to 88, while the total number of programs is only 84.

may well have discovered that "the grass is not always greener on the other side of the fence," and decided to return. Regardless, but for a return to the classroom by members of these two groups, the relatively minor shortfall of replacement teaches for Agricultural Education would have been much more substantial in 1995.

In 1995, the placement rate remained stable near the historic norm of just over 50%. Many non-placements result from new graduates who really do not want to teach. The placement rate of those who are newly qualified and who probably wanted to teach is much higher, at 72.5%. Thus, Agricultural Education remains a field in which the placement rate is relatively high for those who actually want teaching jobs. At the same time, we should consider the arguments of those like Brown (1995) and Parmley, Bowen, & Warmbrod (1979), who argue that the shortfall of qualified teachers accepting teaching positions does not constitute a true teacher "shortage." From the perspective of the economist, a shortage exists as an artifact of the imbalance between price offered and price demanded. Whether we call it a teacher shortage or simply refer to the situation as a shortfall in the number of qualified teachers accepting teaching positions, is a matter of semantics. From a practical standpoint, the shortfall of teachers remains with us and has been growing for the past few years, even though it is not at the critical levels of previous decades.

An allied conclusion is that graduation from an Agricultural Education program no longer means certification to teach. The number of programs other than teacher education that are included under the Agricultural Education umbrella appears to have expanded over the years. As recently as the 1984 national supply and demand study (Craig, 1985) the number of BS/BA Agricultural Education graduates was used directly as the estimate of the number of newly qualified potential teachers. That is obviously no longer a valid assumption as other majors such as agricultural extension and agricultural communications make up an important and growing part of our graduates.

This is the fourth year that gender and race/ethnicity data have been reported for teaching positions and the second year for teacher education completers. A small but significant number of our teachers are African American, but only a minuscule number are of Native American, Asian, or Pacific Islander descent. The same is true of females. Considering the proportions of the overall population represented by those various minority groups and by females, Agricultural Education teachers are disproportionately white, non-Hispanic males. Both racial and gender percentages vary somewhat by state and region. The general population patterns of the regions may partially explain the racial/ethnic differences among Agricultural Education teachers. One might speculate that the larger percentages of female teachers in the Eastern and Western regions reflect less conservative attitudes toward gender stereotyping than is prevalent in the Southern and Central regions.

Clearly, programs labeled as production agriculture no longer represent the predominant mode of delivery in Agricultural Education. Rather, teachers whose programs consist of various combinations of agriculture courses dominate and production agriculture has fallen to fourth place, behind both programs consisting of combinations of various Agricultural Education courses, programs listed as agriscience, and ornamental horticulture programs. On the other hand, for anyone familiar with the teaching patterns in Agricultural Education, it is a reasonable assumption that many of those combination programs are heavily influenced by production agriculture.

Based on the findings of this study, a typical Agricultural Education teacher in the United States works in a high school, in a single-teacher department, teaching a variety of agriculture courses much of the day, and having no adult or Young Farmer responsibilities.

Dykman's (1993) concerns regarding the declining number of teacher education programs in vocational education holds true in Agricultural Education. The number of agricultural teacher education programs reported in this study in 1989 was 88. By 1995, that had fallen to 84. Further, of those 84, 5 institutions reported no newly qualified teachers in 1995 and another 8 institutions reported only one completer each. Thus, the number of "active" Agricultural Teacher Education programs is down again this year. A decline in the number of active programs of Agricultural Teacher Education programs may have even more serious long-term implications for the profession than the decline in the number of newly qualified teachers during the same period.

Recommendations

A major effort needs to be undertaken by the profession to further increase the number of newly qualified potential teachers of agriculture. At a time when teacher education programs nationwide are bulging with students, why did the number of newly qualified teachers of agriculture fall by almost a third between 1985 and 1995? Research is needed to pinpoint the nature and cause of the problem and to determine what can and should be done to correct the problem.

A study needs to be conducted to examine the loss of teaching positions in agriculture from 1978 to 1992. Was the decline a function of a general decline in school-age population? Was the decline actually a result of a reduction in the proportion of students enrolling in agriculture at the secondary level? Was the loss concentrated in high schools or in middle/junior high schools? What can, and should the profession do to counteract the problem? Has the curriculum shift toward agriscience and technology contributed to the apparent leveling off in the long-term trend of decline in program numbers?

Research is needed to determine why students enroll in and complete teacher education programs, then choose not to seek teaching positions. Is there something that the profession should be doing to increase the proportion of our graduates and other program completers who seek teaching careers? How can the profession be made more attractive to qualified potential teachers of Agricultural Education?

As the number of teacher education programs in Agricultural Education declines, the profession needs to develop a mechanism for supplying qualified teachers for states in which adequate teacher preparation programs are unavailable. Regional or interstate consortia have been used in some places, most notably in the northeastern states where the programs in the University of Vermont, the University of Rhode Island, and the University of Maryland have all been discontinued in the past few years. Partially as a result of this study, a national clearinghouse of teacher openings and potential teachers was established on the National FFA web site in 1996 to match available teachers with open positions. The clearinghouse was authorized by the National Council for Agricultural Education, produced with primary leadership from the National Association of Agricultural Educators (NAAE), and funded by the National FFA. State leaders and teacher educators need to make better use of that asset to help match excess teachers in one location to available positions on other locations.

Research is needed to describe the kinds of Agricultural Education programs in the various states. What is being taught? Are curriculum reforms that are being reported actually affecting the instruction being delivered by the teachers in their classrooms and laboratories? These questions and many more allied questions have been answered for individual states, but cross-state, regional, even national data are needed. This Supply and Demand study provides only a brief glimpse at some interesting and important questions. As sincere and dedicated professionals attempt to reform Agricultural Education, do we really know what the curriculum is now? And if we do not really know what is being taught in local schools, how will we know when the profession has changed?

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News Release

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# # # # #

The Agricultural Education classrooms in America are faced with a shortage of new teachers. An estimated 697 new agriculture teachers were needed in the nations' schools in fall of 1995. But, there were only about 484 new graduates looking for teaching positions. Over two hundred schools were unable to hire fully qualified teachers of Agricultural Education by the beginning of school in September, 1995.

Agricultural Education teachers are probably best known as FFA advisors, but their main job is preparing students for entry into jobs in the industry of agriculture and agri-business. Most people study to become agriculture teachers by majoring in Agricultural Education at their state agriculture colleges or land-grant universities.

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Fact Sheet

A NATIONAL STUDY OF THE SUPPLY AND DEMAND
FOR TEACHERS OF AGRICULTURAL EDUCATION
IN 1995

Total number of agriculture teaching positions in US	10,164
Number of openings for 1995	977
Net number of new teachers needed	697
Number of newly qualified potential teachers	625
Estimated number of newly qualified teachers seeking teaching positions	484
Teachers needed but not available September 1, 1995	51
Teachers with emergency certificates	119
Departments expected to close for 1995-96 due to lack of qualified teacher	41
Types of teaching positions	
High school only	7,897
Middle/junior high school only	362
Adult teacher only	193
Other schools	1,712
Number of teachers with both in-school and adult or Young Farmer programs	2,079
Subjects taught	
Agriscience	1,721
Ornamental Horticulture	853
Production Agriculture	737
Specialty programs, such as Natural Resources Management or Ag Mech.	1,238
Combinations of agriculture programs	4,493
Combinations of agriculture and some other subject	72
Texas had the largest number of teachers	1,490
Alaska had the smallest number of teachers	7

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